

JAN 31 2011

**Smith & Nephew, Inc.**  
**Summary of Safety and Effectiveness**  
**SMF® Hip Stem Line Additions**

**Contact Person and Address**

Natalie P. Williams  
Regulatory Affairs Specialist  
Smith & Nephew, Inc.  
1450 Brooks Road  
Memphis, TN 38116  
(901)399-5161

**Date of Summary:** 11/02/2010**Name of Device:** Smith & Nephew SMF® Hip Stem**Common Name:** Hip Stem**Device Classification Name and Reference:** 21 CFR 888.3358 Hip joint metal/polymer/metal semi-constrained porous-coated uncemented prosthesis**Device Class:** II**Panel Code:** Orthopaedics/87 LPH**Device Description**

The Smith & Nephew SMF® Stem, previously marketed by Smith & Nephew as the MIS Hip Stem, is a straight, tapered, proximally loaded stem designed to match the geometry of the femur. The subject monobloc SMF® femoral stem line additions are offered in sizes -1 and 0. The subject devices have fixed, non-modular necks with a 12/14 neck taper to accept currently available Smith & Nephew femoral heads, and are available in standard and high offset. The SMF® monobloc femoral stems are manufactured from titanium alloy (Ti-6Al-4V) and are proximally coated with Smith & Nephew's Stikite porous coating.

**Intended Use**

Total hip components are indicated for uncemented use in individuals undergoing primary and revision surgery where other treatments or devices have failed in rehabilitating hips damaged as a result of trauma, inflammatory joint disease such as rheumatoid arthritis, or noninflammatory degenerative joint disease (NIDJD) or any of its composite diagnoses such as osteoarthritis; avascular necrosis; traumatic arthritis; slipped capital epiphysis; fused hip; fracture of the pelvis; diastrophic variant; nonunion, femoral neck fracture and trochanteric fractures of the proximal femur with head involvement that are unmanageable using other techniques; femoral osteotomy, or Girdlestone resection; fracture dislocation of the hip; and correction of deformity. Smith & Nephew SMF® Hip Stem components are intended for single use only and are to be implanted without bone cement.

**Performance Data**

Performance testing has been conducted for the subject devices in accordance with the following guidance documents:

- *Guidance Document for Testing Orthopaedic Implants with Modified Metallic Surfaces Apposing Bone or Bone Cement*, dated April 1994
- *Draft Guidance Document for Testing Non-Articulating, "Mechanically Locked," Modular Implant Components*, dated May 1995
- *Non-Clinical Information for Femoral Stem Prostheses*, dated September 2007

Fatigue strength testing has also been evaluated. A review of testing has demonstrated that there are no new issues related to the safety or effectiveness of the subject devices.

**Substantial Equivalence Information**

The materials, intended use, indications for use, sterilization, and overall design of the Smith & Nephew SMF® Hip Stem line additions are substantially equivalent to the SMF® Hip Stems cleared in premarket notification K080625 and the Anthology Hip Stems cleared via K052792. Giving consideration to the device modifications described in the Device Description section, no changes have been made to the overall design philosophy, intended use, and material choices when compared to the predicate devices.

**Table 1: Comparison of Size -1 and 0 Femoral Stems to Predicate Device**

Feature	Subject Size -1 and 0 SMF® Hip Stems with Stiktite	S&N SMF® Hip Stem with Stiktite (K080625)	S&N Anthology Stem (K052792)
Similar Indications for Use	✓	✓	✓
Size Offering	-1 and 0	1 - 9	1-14
Stem Material	Ti-6Al-4V	Ti-6Al-4V	Ti-6Al-4V
Tapered Stem Geometry	✓	✓	✓
Medial Grit-Blasted Surface Finish	✓	✓	✓
Proximal Porous Coating	✓	✓	✓
Glass Bead Distal Tip	✓	✓	✓
<b>Neck Options</b>			
Fixed or Modular Neck	Fixed	Modular	Fixed
Neck Taper	12/14	12/14	12/14
Standard and High Offset Options Available	✓	✓	✓
Polished Neck Area	✓	✓	✓

**Conclusion**

This Abbreviated 510(k) Premarket Notification is being submitted to request clearance for the size -1 and 0 SMF® Hip Stem line addition components. Based on the similarities to the predicate device and a review of the testing, the devices are substantially equivalent to femoral stem components currently marketed under K080625 and K052792.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Room -WO66-G609  
Silver Spring, MD 20993-0002

Smith & Nephew, Inc.  
% Natalie P. Williams  
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Memphis, TN 38116

JAN 3 1 2011

Re: K103256

Trade/Device Name: Smith & Nephew SMF Hip Stem  
Regulation Number: 21 CFR 888.3358  
Regulation Name: Hip joint metal/polymer/metal semi-constrained porous-coated uncemented prosthesis  
Regulatory Class: Class II  
Product Code: LPH  
Dated: November 2, 2010  
Received: November 3, 2010

Dear Ms. Williams:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

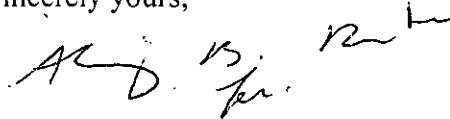
Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please go to <http://www.fda.gov/AboutFDA/CentersOffices/CDRH/CDRHOices/ucm115809.htm> for the Center for Devices and Radiological Health's (CDRH's) Office of Compliance. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,

A handwritten signature in dark ink, appearing to read 'Mark N. Melkerson', with a stylized flourish at the end.

Mark N. Melkerson  
Director  
Division of Surgical, Orthopedic  
and Restorative Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## Indications for Use

510(k) Number (if known): K103256 (pg 1/1)

Device Name: Smith & Nephew SMF® Hip Stem

### Indications for Use:

Total hip components are indicated for uncemented use in individuals undergoing primary and revision surgery where other treatments or devices have failed in rehabilitating hips damaged as a result of trauma, inflammatory joint disease such as rheumatoid arthritis, or noninflammatory degenerative joint disease (NIDJD) or any of its composite diagnoses such as osteoarthritis; avascular necrosis; traumatic arthritis; slipped capital epiphysis; fused hip; fracture of the pelvis; diastrophic variant; nonunion, femoral neck fracture and trochanteric fractures of the proximal femur with head involvement that are unmanageable using other techniques; femoral osteotomy, or Girdlestone resection; fracture dislocation of the hip; and correction of deformity. Smith & Nephew SMF Hip Stem components are intended for single use only and are to be implanted without bone cement.


Prescription Use     X      
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use                       
(21 CFR 807 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE – CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

  
(Division Sign-Off)  
Division of Surgical, Orthopedic,  
and Restorative Devices

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510(k) Number K103256